

REMARKS

Claims 1 and 5-15 are pending in the current application. Claim 1 is in independent form. Claim 4 has been cancelled. No new matter has been added. In view of the above amendments and following remarks, favorable reconsideration and allowance of the present application is respectfully requested.

Applicants appreciate the Examiner's acceptance of the formal drawings filed on June 20, 2005 and the indication that the references submitted in the Information Disclosure Statement filed on July 9, 2008 have been considered.

I. **PERFECTION OF CLAIM OF PRIORITY**

As evidenced by the first paragraph of the instant Specification, Applicants note that the present application claims priority to PCT Application PCT/DE2003/004137 (filed December 15, 2003), which claims priority to German Patent Application No. DE 102 598 21.5, filed on December 19, 2002 in the German Property Office.

By the present Amendment, Applicants enclose an English translation of German Patent Application No. DE 102 598 21.5, along with a *Statement of Accurate Translation* signed by the translator.

Thus, pursuant to 37 C.F.R. §1.55(a)(4)(B), Applicants have "perfected" the claim of priority to German Patent Application No. DE 102 598 21.5.

II. CLAIM AMENDMENTS

By the present Amendment, Applicants submit that claim 1 has been amended to include the subject matter previously recited in claim 4. Applicants submit that the subject matter of claim 4 has already been considered by the Examiner. Thus, Applicants submit that the amendments do not introduce new matter and/or raise new issues.

III. EXAMPLE EMBODIMENTS

Example embodiments teach that if the electrode width, the electrode spacing and the reaction layer thickness have the specified values, an electro-chemical impedance spectroscopic measurement results in particularly good detection signals. The impedance spectroscopically detectable area of the electronic field is limited to 1 to 5L (L = width + distance to electrodes). See page 2 of the Specification. Molecules located outside of this area cannot be detected or only with difficulty (see Figure 2). A reaction-layer thickness of more than 1 to 5L results in an undesirable detection limit and/or an erroneous quantitative detection of molecules because molecules located outside of the reaction-layer thickness of 1 to 5L are recorded, but are not electro-chemically determined. The specified values for the electrode width, the electrode distance and the reaction-layer thickness therefore play a decisive role in the electrochemical impedance measuring. Optical measurements follow different rules, and consequently require different dimensions of the reaction layers.

IV. CITED ART GROUNDS OF REJECTION

(A) *Claims 1, 4-6, 8-9 and 11-15 stand rejected under 35 U.S.C. §103(a) as allegedly being anticipated by Albers et al. (hereinafter “Albers”), WO 00/62048 to in view of Coté et al. (hereinafter “Coté”), U.S. Patent No. 6,485,703 and further in view of Zhou et al. (hereinafter “Zhou” or “the ‘339 Publication”), U.S. Publication No. 2004/0121339. Applicants respectfully traverse the rejection.*

A. INDEPENDENT CLAIM 1

Amended independent claim 1 is directed to a DNA chip including (*inter alia*) a hydrophilic reaction layer, “the hydrophilic reaction layer having a thickness between 2 μ m and 10 μ m.” Applicants submit that the above features recited in amended independent claim 1 are not taught, or suggested, by the art cited in the rejection for the reasons discussed below.

i. ZHOU: THE ‘339 PUBLICATION

Applicants submit that the ‘339 Publication is excluded as art against the present application.

Namely, Applicants submit that the ‘339 Publication does not qualify as art under §102(a) art because the publication date of the ‘339 Publication (June 24, 2004) does not precede the earliest date of invention currently established by the present application (December 19, 2002, the filing date of German Patent Application No. DE 102 598 21.5).

The '339 Publication does not qualify as art under §102(b) because the publication date of the '339 Publication (June 24, 2004) is not more than one year prior to the filing date of the present application (December 15, 2003, the filing date of PCT Application PCT/DE2003/004137).

Furthermore, the '339 Publication no longer qualifies as art under §102(e) because the filing date of the '339 Publication (December 19, 2002) does not precede the earliest date of invention currently established by the present application (December 19, 2002, the filing date of German Patent Application No. DE 102 598 21.5). (Applicants note that the '339 Publication does not qualify as art under §§102(c), (d), (f) and (g) for obvious reasons.)

Therefore, Applicants submit that the '339 Publication is excluded as art.

ii. THE COMBINATION OF ALBERS, COTE AND ZHOU

The rejection acknowledges that "Albers et al in view of Cote et al do not teach the reaction layer thickness of between 2 and 10 micrometer (limitation of claim 4)..." Action, p. 6. Thus, the Examiner relies on Zhou to cure the deficiencies of Albers and Coté. However, as discussed above, Zhou no longer qualifies as art.

Regarding the combination of Albers and Coté, Albers and Coté fail to acknowledge a relationship between the electrode width, the electrode distance and the reaction-layer thickness. That is, as acknowledged by the Examiner, Albers fails to disclose a reaction-layer thickness.

Furthermore, Coté teaches that the electrode width is 1.6-mm, and the reaction-layer thickness is 100- μm . Thus, Coté teaches a device with a thicker reaction layer than that recited in amended independent claim 1.

Thus, Coté teaches away from a hydrophilic reaction layer “having a thickness between 2 μm and 10 μm ” as recited in amended independent claim 1.

As such, Applicants submit that the combination of Albers and Coté fails to teach, or suggest, a DNA chip including hydrophilic reaction layer, “the hydrophilic reaction layer having a thickness between 2 μm and 10 μm ” as recited in amended independent claim 1.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to claim 1, and claims 5, 6, 8-9 and 11-15 at least by virtue of their dependency on independent claim 1.

(B) *Claims 1, 6, 7 and 10 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Albers and Coté in view of Zhou and further in view of Valint et al. (hereinafter “Valint”), U.S. Publication No. 2002/0102415. Applicants respectfully traverse the rejection.*

Valint is directed to the surface treatment of silicon contact lenses, and other silicone medical devices. Valint fails to teach, or suggest, a DNA chip including a hydrophilic reaction layer, “the hydrophilic reaction layer having a thickness between 2 μm and 10 μm ” as recited in amended independent claim 1. Thus, Valint fails to cure the deficiencies of Albers and Coté with respect to amended independent claim 1.

Applicants submit that claims 6, 7 and 10 are allowable over the combination of Albers, Coté and Valint at least by virtue of their dependency on independent claim 1.

Accordingly, reconsideration and withdrawal of the rejection is kindly requested.

V. PROVISIONAL DOUBLE PATENTING REJECTION

Claims 1-6, 8-9 and 11-15 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-18 of co-pending U.S. Application No. 10/539,817 in view of Coté.

Applicants maintain that the rejection is held in abeyance until either U.S. Application No. 10/539,817 or the present application issues into a patent (as acknowledged by the provisional status of the rejection).

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CONCLUSION

Accordingly, in view of the above, reconsideration of the rejections and allowance of each of claims 1 and 5-15 in connection with the present application is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants hereby petition for a two (2) month extension of time for filing a reply to the outstanding Office Action and submit the required \$490.00 extension fee herewith.

Should there be any matters that need to be resolved in the present application; the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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